

CHAPTER 3 STUDY SUGGESTIONS

In addition to the problems that you learned to work at the end of the chapter, don't forget that this chapter covers a whole lot of concepts that you need to memorize and learn to apply. To help you organize it in your mind, and as an extra review for the test, the following suggestions are strongly encouraged.

- Give yourself plenty of time to study.** Do not try to complete all of these suggestions in one night. It is too much for you to keep straight. I would suggest a **minimum** of 3 hours of study time (not all at once).
- Read the Chapter Summary out loud. Write down the definitions of all the VOCABULARY. Practice memorizing them with the Interactive Review Games in the Student Premium section of the online textbook. Or, write down the definitions on flashcards and (term on front, definition on back) and have someone call them out to you until when they begin the definition, you can finish it and give them the term.
- Review the illustrations in your textbook and understand the legends/ explanations that go with each one.
- Be able to compare and contrast Dalton's Atomic Theory with the Modern Atomic Theory. (*This will either be in the multiple choice or a discussion question.*)
- Know the three laws that are supported by Dalton's Atomic Theory, know their definitions, and be able to explain how Dalton's Atomic Theory supports them. Also, be able to give and identify examples of each of them.
- Know the people in this chapter and what they discovered. Be able to describe their experiments and explain the connection between the experimental results and the conclusions the scientists formed. The people are Democritus, Lavoisier, Proust, Dalton, Thompson, Millikan, Rutherford, Chadwick, and Meitner. This will be in the multiple choice, or I could ask you to illustrate and describe an experiment and explain how the results led to discoveries.
- Know the properties of subatomic particles and the properties of the three isotopes of hydrogen. Especially memorize the information in the following tables: *Properties of Subatomic Particles* and *Isotopes of Hydrogen*. This information should also be in your notes.
- Know how to write and interpret the two types of symbols for isotopes – hyphen notation and nuclear symbols.
- Know how to write and name chemical formulas!!**
- Know how to work the following types of problems:
 - Average atomic mass: $AAM = (RAM_1 \cdot \%_1) + (RAM_2 \cdot \%_2) + \dots$
 - Moles to mass and mass to moles
 - * conversion factor is molar mass, you get it off the periodic table
 - Moles to atoms and atoms to moles
 - * conversion factor is 6.022×10^{23} atoms in one mole
 - Mass to atoms and atoms to mass
 - * use a road map with two conversion factors for these:
mass \rightarrow moles \rightarrow atoms **or** atoms \rightarrow moles \rightarrow mass
- MEMORIZE** Avogadro's number: 6.022×10^{23} . I'll give you masses from the periodic table on the test.
- Go through the chapter and re-work the Sample Problems and Practice Problems.
- Review the answers to the REVIEWING CONCEPTS, PROBLEMS, and CRITICAL THINKING questions from homework.
- A few days before the test on this chapter, read the "SECTION OBJECTIVES" at the beginning of each section review any topics that you think will cause you a problem. For topics you are not sure about, go back and watch the vodcast of the lesson on the website.
- Practice with the Interactive Review Games in the Student Premium section of the online textbook. *Did I mention that already?*
- Practice the online quizzes at <http://www.sciencegeek.net/Chemistry/taters/directory.shtml>